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EXPLAINING EVENTS IN NARRATIVES: THE IMPACT OF SCAFFOLDING IN 4 TO 12 OLD YEAR CHILDREN

The focus of this article is the manner in which 4 to 12 year old children deal with the "evaluative" component of narratives (Labov & Waletsky, 1967). After spontaneously telling their first version of a story of a misunderstanding between two characters, constructed on the basis of a sequence of five images, children participated in a scaffolding procedure during which they were questioned about the reasons for the events. After this non-intrusive, Piagetian-styled clinical interview, children were asked to recount the story a second time. For children's first narratives, our study confirms earlier results by showing that, before 8-9 years, children rarely mention the epistemic states of the characters. The false belief of one of the characters and its rectification are rarely mentioned before10-11 years and even at that age by few children. Presenting a story based on a misunderstanding does not facilitate this kind of narration. However, in the narrative produced after scaffolding, 6-7 year old children increase considerably their references to the characters' internal states, and from 8-9 years, the expression of false belief and of its rectification. These results call for multiple evaluations in order to best grasp children's narrative competence.

Key words: children's narratives, development of narrative competence, evaluative component of narratives

Introduction

This work deals with children's ability to recount a coherent story based on a series of images, a story that accounts for the events integrating into the narrative plot the points of view of the different characters, their intentions and beliefs. In other words, it will focus on what Labov and Waletsky (1967) and Labov (1972) have called the evaluative component of the story, and Bruner the "landscape of consciousness" (1986: 14) by which the narrator takes the perspective of the characters and talks about the events in terms of their emotions, intentions and beliefs about them. Indeed, although recounting a succession of events provides the basic

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facts, what ensures the meaning of the story is the placement of these elements in relation to each other and to the point of view of the characters (see, for example, Berman & Slobin, 1994; Berman, 2004).

Many studies have looked at children's narratives based on images, in particular those of the Frog story – "Frog, Where Are You?" (Mayer, 1969) – (e.g., Berman & Slobin, 1994; Strömqvist & Verhoeven, 2004). They have shown that pre-school age children are able to organize their story according to a Labovian-type of narrative structure with an initial background, a plot development and a resolution. Young children produce mostly descriptive narratives. From about 6-7 years of age, children begin to express causal connections, an ability which improves progressively until 9-10 years (e.g., Bamberg, 1994; Bamberg & Damrad-Frye, 1991; Berman & Slobin, 1994; Berman, 2004; François, 2004). In addition, if children between 4 and 7 years old can already attribute mental states to the characters of a story (Bokus, 2004; Richner & Nicolopoulou, 2001), it is usually around 8-9 years that they use these internal states to explain behaviors (Bamberg, 1994; Bamberg & Damrad-Frye, 1991; Berman & Slobin, 1994; Charman & Shmueli-Goetz, 1998; Kemper, 1984). It is even later that children express that different characters can have different perspectives on the same events, that the narrator and the characters do not have the same knowledge, or that a character can have a false belief about an event (Aksu-Koç & Tekdemir, 2004; Kielar-Turska, 1999; Bamberg & Damrad-Frye, 1991; Küntay & Nakamura, 2004).

These late developments cannot be considered due to lack of basic competences in these children since it is known that, in natural settings, children can produce narratives (although simple and structured by the conversational exchange) and explanations by the end of the second, beginning of the third year, and that they show also signs of awareness of the inner states of others (Eisenberg & Garvey, 1981; Franco, 2001; Miller & Sperry, 1988; O'Neill, 1996; Sachs, 1983; Veneziano, 2001; Veneziano & Sinclair, 1995; Wellman, 1990), an ability that becomes clearer around 4-5 years when children succeed in solving "false belief" tasks (e.g., Wimmer & Perner, 1983).

These developmental décalages relative to children's behavior in natural settings can be understood if we consider that constructing a story on the basis of a series of pictures, using linguistic structures appropriate to express the causes and consequences of events, sometimes requiring to present different points of view on the same reality, and doing all that in an integrated, monological narrative, is a complex activity. And indeed several variables intervene in the more or less precocious appearance of the evaluative component in children's narratives, as for example, the content to be recounted, the nature of the communicative situation or of the modality in which the story is presented (e.g., Berman, 1995, 2004; Eaton, Collis & Lewis, 1999). Thus children who do not account for events in terms of the characters' internal states might not do so because the important cognitive and linguistic resources mobilized by the narrative activity itself would leave little room for explicit accounts, evaluations or confrontation of the characters' mental states (e.g., Aksu-Koç & Tekdemir, 2004; Berman, 2004). The results of Eaton et al.'s study (1999) go in the direction

Table 1. Number of subjects per age group

Age Groups	No. of children
4-5 years	9
6-7 years	8
8-9 years	10
10-11 year	10
Total number	37

of this hypothesis. They found that in the experimental group, where children are asked questions about the internal states of the characters following each scene of the story, 5 year olds could talk about the characters' internal states more than the control children. In their study, however, narratives are produced "in bits and pieces", which certainly diminishes the complexity of the narrative task, easing the demands on memory and on the cohesion constraints of the monological narrative.

In the present study we retain the demands of the monological narrative while introducing two characteristics likely to facilitate taking into account the internal states of the characters. On the one hand, the nature of the story used is based on a misunderstanding between two characters who have a different understanding of a key event. Recounting the misunderstanding should elicit reference to intentions and to beliefs about the intentions of the other character. On the other hand, we have introduced a scaffolding procedure aiming to focus children's attention on the causes of events, without providing, however, any explicit reference to the internal states of the characters.

Would the nature of the story allow an earlier expression of internal states and their implication in the explanation of events? Do these types of behavior appear more frequently and more precociously after a scaffolding procedure that focuses children's attention on the reasons of the key events? And if the children improve on these dimensions, are these improvements a function of development?

Method

Subjects

37 children from Poitiers and Paris schools, divided into four age groups, participated in the research reported here (see Table 1).

The Stone story

The "Stone on the Path" story we used is made up of five wordless pictures (see Appendix 1)[1]. The sequence can be recounted simply at a descriptive level, but its

[1] The story is part of a collection intended for 3-5 year old children (Furnari, 1980).

overall meaning can best be understood if it is narrated as a story of misunderstanding involving the attribution of intentions and of false beliefs to the characters.

Procedure

Each child first saw the five images of the story, presented one after the other on a computer screen. Each image appeared first in large format in the middle of the screen, then positioned itself on the upper part of the screen in reduced size (the Appendix depicts the final arrangement). At the end, the set of five images remained on the screen for two minutes. The child was told that he would have to narrate the story he understood from the pictures when the pictures would not be in view anymore. When the child considered himself ready s/he told the *first narrative*. The experimenter didn't interfere in any way at this stage but could show the pictures again (up to three times for a period of 20 seconds) if the child requested it.

Then, during the *scaffolding phase*, the researcher, taking into account what the child had expressed in the first narrative, questioned the child on the reasons of the events. For example, if the child had mentioned the fact that P1 had pushed P2[2], the experimenter said: "You told me that the boy pushes the girl. How come?" If the child did not answer, the experimenter would add: "He comes along and pushes her. Do you do that?". Concerning the "pushing back" event: "Do you understand why the girl pushed the boy?". The experimenter didn't provide any answer himself. Finally, the child was asked to recount the story once again (the *second narrative*).

The entire interviews were audio recorded and were transcribed *verbatim*.

Method of Analysis

The analyses presented focus on children's expression of internal states, on the role they have in the explanation of events, on the expression of the fact that a character holds a false belief and and on its rectification, leading to the resolution of the misunderstanding.

Identification of internal states

Four types of internal states were identified:

a) physical states (phy), referring to sensations (e.g., he hurt himself) and to perceptions (e.g., he did not see the stone);
b) emotional states (emot), like, for example, he is angry, he is happy, he is not happy;
c) intentional states (int), referring of the characters' intentions or absence of intentions (e.g., *he did not do it on purpose; he wanted to push him*);
d) epistemic states (epi), referring to beliefs, knowledge or lack of knowledge by the characters. These can be about a "world state" (e.g., *he did not know*

[2] P1 represents the character that stumbles on the stone and P2 the other character.

how he had fallen) or about the internal state of a character (e.g., *he thinks he pushed him on purpose*), which constitutes a mental state attribution of second order (e.g., Perner & Wimmer, 1985).

Explanatory relationships

As in other studies, we considered explanatory not only relations that were marked explicitly by causality connectors or expressions, but also those juxtaposed relations that can be interpreted in discourse to provide explanatory connections (see, for instance, Gross & Nazarensky, 2004). A set of explicit criteria was used to identify relations where the explanatory interpretation dominates over an interpretation in purely temporal terms. This is definitely the case when the temporal succession of events is reversed, or when the child introduces into his narrative elements that do not come directly from the images presented, which seems to be constructed by the child to account for the dynamics of the depicted events.

The identification of an explanatory relation requires a condition *sine qua non* stating that the components must necessarily present a semantic relationship such that one can be considered the cause, the reason or the motivation of the other. Explanatory connections were then identified whenever the relationship was expressed in a retroactive manner (e.g., Schlesinger, Keren-Portnoy & Parush, 2001; Veneziano, 1999), from the *explanandum* – what is to be explained – to the *explanans* – that which explains it, as in this case the expression of the relationship does not follow the temporal succession of events and cannot be interpreted simply in these terms (Veneziano & Hudelot, 2005a).

When the relationship is expressed in a proactive manner (from the antecedent to the consequent), at least one of the following three criteria had to apply:

- there was an explicit causal marker: "for that reason", "since", therefore", "because of" (e.g., *he stumbles and that's why he pushes him; since he pushed him, the other pushes back*).
- the antecedent of the relationship was an internal state (e.g., *he believes he did it on purpose and he pushes him on the pebble; he doesn't see the stone and he falls on the other one*) since the "event" put forth as a reason seems to be created by the child for that purpose;
- an internal state was expressed as a consequence, or else the components of the explanation were related by an inherent physical relationship (for example, stumbling and pushing). In these cases the antecedent and the consequent must have been connected at least by the multifunctional marker "and".

Explanatory use of internal states

For each type of internal state we determined whether or not it was used within an explanatory relation, if it was given as the reason or as the consequence, or if it was at the same time the consequence of an event and as the reason for another.

False belief and rectification of false belief

The expression of the false belief was identified when the child not only attributed to P2 a belief about the intentions of P1, something already captured by the coding of internal states (see above, e.g., *he believes that he did it on purpose*), but when he expressed also the fact that the first push has a physical cause (e.g., *he stumbles on a pebble and he pushes the other child; then the other child /…he believes that he did it on purpose*). Given that the child presented the event as it "objectively" happened, he not only attributes a belief to P2, but he also sets the background conditions to understand that this belief is false.

The rectification of the false belief (RFB) was coded when the child had P1 negate the supposed belief state of P2 (e.g., *I didn't push you*) and/or, let it be known that P2 had been in a different belief state (e.g., *Oh, pardon me, I thought you did it on purpose*).

Results

As mentioned, the Stone story was recounted differently by children. Before going into more specific results we present some examples of the diversity of the overall narratives gathered.

Examples of narratives

There is a tendency to think that pictures are transparent and that it is enough to look at them to know what the story is about. But, as François (2001) puts it, "the perceived object […] is not given as such, but is "thought"" (ibidem: 96) since images do not indicate either reference or (I would prefer: do not indicate reference nor) the connections between different representations (e.g., Bresson, 1981; Deleau, 1990). Thus, narratives produced on the basis of pictures require a lot of interpretation on the part of the narrator, concerning the identification of the situation, of the objects, of the characters and of the actions represented by the static images as well as, to an even larger extent, concerning the causes and reasons of the events and of the characters' behaviors. It is thus the narrator who connects the pictured elements and constructs a narrative tissue into which these elements are inserted. Thus, although the majority of the narratives collected share a basic plot, some children interpreted the images in a rather different way as, for example, in Example 1:

Example 1 – WES 5;7

Il le pousse euh : // pa(r)c(e) que / pa(r)c(e) que / pa(r)c(e) que et ben i voulait lancer la pierre / et puis // et puis après // non // i voulait lancer la pierre / i l'a poussé // et l'autre il l'a encore poussé pour la lancer // et après / i l'a / i l'a lancée sur sa main.

He pushes him, uh: // cause / cause / cause well he wanted to throw the stone / and then // and then afterwards // no // he wanted to throw the stone / he

pushed him // and the other one he pushed him again to throw it // and afterwards / he threw it on his hand.

Children that interpret the context, characters, objects and actions in a "standard" way (see appendix 1) may tell, nevertheless, the story in rather different ways. Below are examples of the variety of narratives recounted by children of different ages, with the explanatory component becoming more important with age:

Example 2 – HUG 4;9

c'est l'histoire d'un / p(e)tit garçon / et d'une p(e)tite fille / avant i sont joyeux après i font la bagarre / et après c'est fini // i pleure l'autre / après i rejouent à la fin.

It's the story of a / l'il boy / and a l'il girl / before they're happy then they get in a fight / and later it's over // and the other one's crying / and then they're playing together again at the end.

Example 3 – LOU 5;1

là i // tombe / i tombe // (pas?) // et puis // et puis après l'autre // i // tombe // et puis après l'autre il le fait tomber / après i r(e)deviennent amis

There he // falls / he falls // (doesn't he?) // and then // and then after the other // he // falls // and then the other one he makes him fall / and then they get to be friends again.

Example 4 – ODI I 6;5

Y avait / un / une fille et un garçon// et / après la / le garçon il a poussé la fille / la fille elle est tombée par terre // elle s'est mise à genoux / il l'a relevée // et puis après // elle est // i sont redevenus amis.

There was / a / a girl and a boy // and / then the / the boy he pushes the girl / the girl she fell down on the ground / she got on her knees / he picked her up // and then next // she is // they become friends again.

Example 5 – MAX 6;5

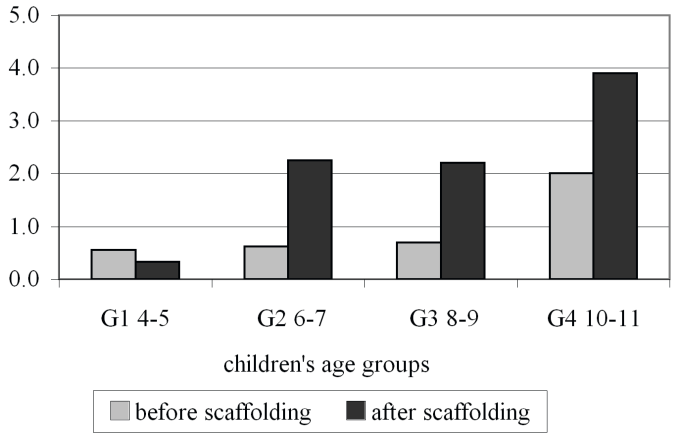
c'est deux amis qui se disent bonjour et il y en a un qui trébuche contre une pierre et il pousse l'autre et après l'autre, il se relève, et après l'autre il le repousse/ après il montre la pierre du doigt pour savoir qui l'a fait trébucher/ après l'autre il l'aide à se relever.

It's two friends who say hello and there's one who trips over a stone and he pushes the other one and then the other one, he gets up, and then the other he pushes him back / then he points to the stone to know who made him trip / then the other he helps him get up.

Example 6 – MAR 10;1

ben alors ça parle de deux p(e)tits garçons / i se disent bonjour et puis euh y en a un qui heurte une pierre / et euh donc euh comme il heurte une pierre et ben y va / i trébuche sur l'autre et puis l'autre i croit qu'il a fait exprès donc y commence à euh à / à mh à l(e) bousculer et puis après i tombe sur la pierre

Figure 1. Average number of references to internal states before and after the scaffolding procedure, by age group



et mh/ i pleure et puis et donc i pleure /alors lui il voit qu'il a pas fait exprès/ donc il l'aide à se remonter.

Well then this tells about two l'il boys / they say hello to each other and then uh there's one who bumps against a stone / and uh the uh since he bumps a stone and well he uh / he trips on the other one and then the other he thinks he did it on purpose so he begins to uh to / to mm to push him and then later he falls on the stone and mm / he cries and then and so he cries / so him he sees that he didn't do it on purpose / so he helps him get back up.

Reference to internal states of the characters

As one can see in Figure 1, up to 9 years children express rarely the internal states of the characters in their initial narratives, a result that is in accord with earlier studies (Bamberg, 1991; Bamberg & Damrad-Frye, 1991; Charman & Shmueli-Goetz, 1998; Eaton et al., 1999; Aksu-Koç & Tekdemir, 2004; Bokus, 2004).

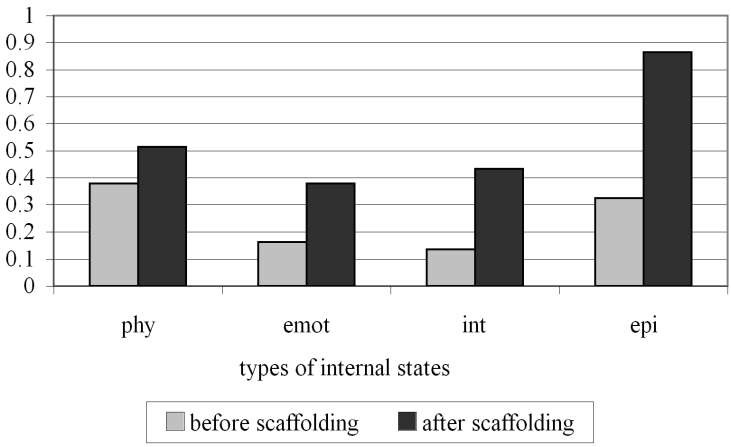
In their narratives after scaffolding, these references increase significantly for the whole group of children ($\chi^2(3) = 83.99$, $p < 0.001$), as well as for each age group starting at 6-7 years[3]. 4-5 year olds, however, continue to tell descriptive narratives and do not increase at all their references to internal states.

Concerning the types of internal states mentioned, Figure 2 shows that, before scaffolding, physical sensations are the internal states most frequently expressed, with epistemic states following closely[4]. After scaffolding, all types of internal states increase significantly (except physical states), with epistemic states showing the

[3] For the 6-7 yr olds: $\chi 2\ (1) = 33.8$; for the 8-9 yr olds: $\chi 2(1) = 32.14$; for the 10-11 yr olds: $\chi 2(1) = 18.05$, all significant at $p < 0.001$).

[4] The mean scores are obtained by dividing the total number of each type of internal state mentioned by the total number of subjects.

Figure 2. Average number of references to different types of internal states before and after scaffolding for the whole group of subjects



largest increase (for phy: $\chi^2(1) = 1.78$, n.s.; for emot: $\chi^2(1) = 10.67$, $p < 0.001$; for int: $\chi^2(1) = 24.2$, $p < 0.001$; for epi: $\chi^2(1) = 33.3$, $p < 0.001$).

Differences are however noticeable as a function of the age of the children[5] (see Figure 3).

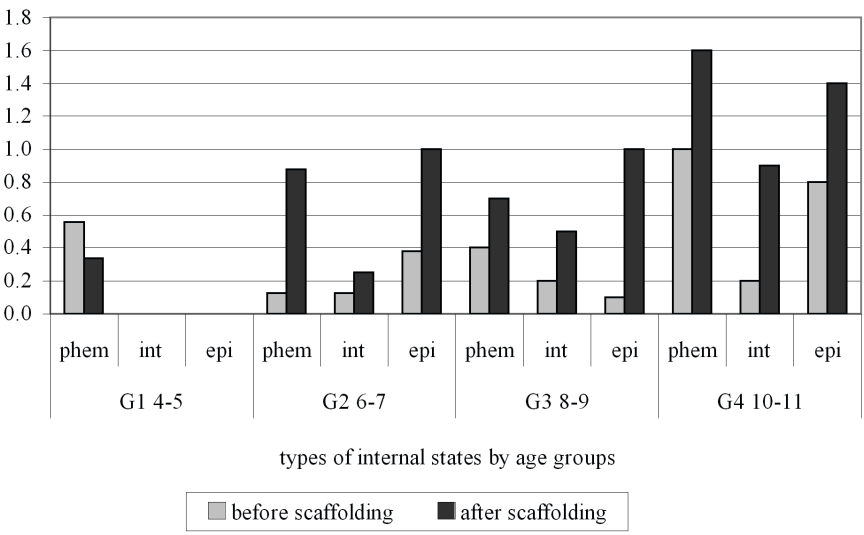
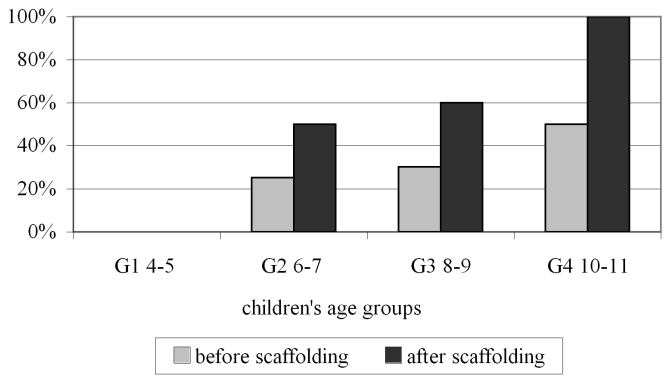


Figure 3. Average number of references to different types of internal states before and after scaffolding, by age group

[5] The mean scores are obtained by dividing the total number of each type of internal state mentioned by each age group by the number of subjects in the corresponding age group.

Figure 4. Percentage of children making reference to at least one epistemic state before and after scaffolding, by age group



Before scaffolding, 4-5 year olds refer only to physical and/or emotional states[6] while 10-11 year olds speak most about epistemic states. After scaffolding, with the exception of 4-5 year olds, all children talk significantly more about the characters' epistemic states. Relative to an expectation of no change[7], the chi-square values for the three groups are all significant[8]. After scaffolding, 6-7 and 8-9 year olds mention epistemic states more than 10-11 year olds do in their narrative before scaffolding. Children of these three age groups, and in particular 6-7 year olds, also increase their references to physical and emotional ("phem") states and to intentional states.

For epistemic states, the same results are found when one considers the children individually (see Figure 4). After scaffolding, the proportion of children who produce at least one epistemic state increases significantly across the group as a whole ($\chi^2(1) = 4.54$, $p < 0.05$) and progressively from 6-7 to 10-11 years of age, with 6 to 9 year olds referring to at least one epistemic state after scaffolding, as much as 10-11 year old children do before scaffolding.

Functions of internal states in the narratives

What function do internal state references fulfill in the children's narratives? Most of the internal states mentioned are implicated in explanatory relations. This is the case for 65% and 84% of the internal states mentioned, respectively before and after scaffolding, a difference that is significant ($\chi^2(1) = 4.185$, $p < 0.05$).

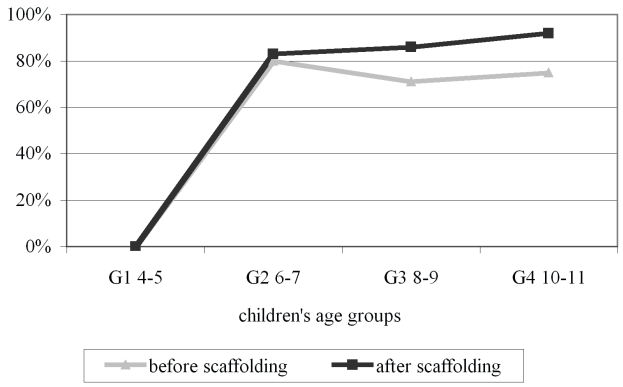
As can be seen in Figure 5, which presents results by age group, 4-5 year olds do not use internal states for explanatory purposes, neither before nor after scaffolding. Instead, from 6 years onwards, the large majority of internal states are involved in

[6] These two categories which do not involve the dimensions of desire or belief, characteristics specific to theory of mind, have been grouped and appear as "phem" in the graphs.

[7] The chi-square tests before/after scaffolding were carried out with a no change H0 expectation.

[8] The chi-square values for the three groups are as follows: for the 6-7 year olds – $\chi2(1) = 8.33$, $p < 0.001$; for the 8-9 year olds – $\chi2(1) = 81$, $p < 0.001$; for the 10-11 year olds – $\chi2(1) = 4.5$, $p < 0.05$.

Figure 5. Percentage of internal states involved in explanatory relationships, before and after scaffolding, by age group



explanatory relationships, a functional use that increases after scaffolding reaching 92% of the internal states mentioned by 8 to 11 years olds children. Instead, the internal states expressed by 4-5 year olds do not have explanatory functions. This suggests that, at around 6-7 years, when internal states become motors and consequences of behavior, an important change occurs in the way internal states are apprehended by the children.

Considering that internal states can be the cause, the consequence, or both the consequence of an event and the cause of another, the explanatory function they fulfill most often is that of the cause or motivation of behavior, before as well as after scaffolding (before scaffolding: $\chi^2(2) = 19.87$, $p < .001$; after scaffolding: $\chi^2(2) = 60.27$, $p < .001$) (see Figure 6). At the same time, it is interesting to note that

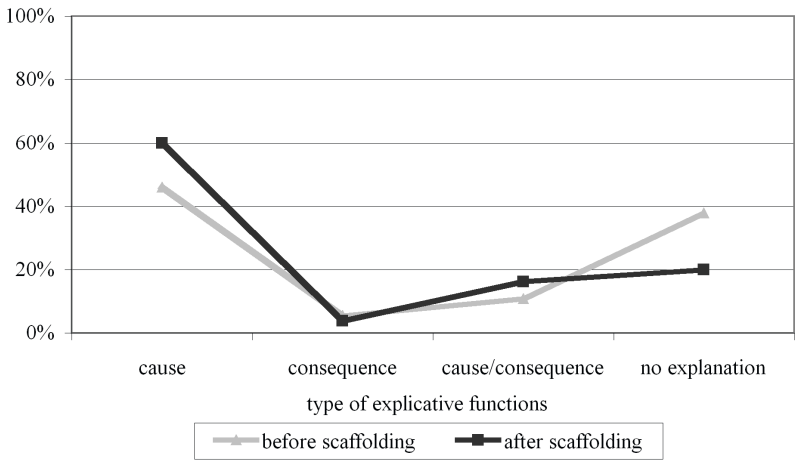
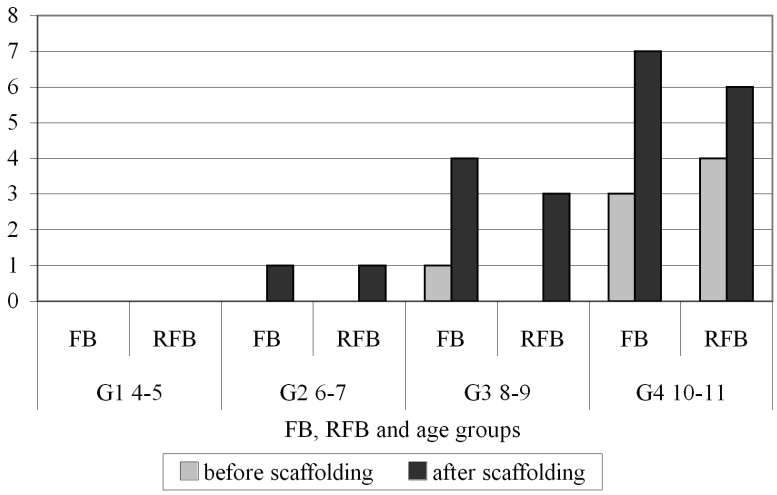


Figure 6: Percentage of internal states used as cause, as consequence or as consequence of one event and cause for another, before and after scaffolding, for all the children

Figure 7: Number of children expressing a false belief (FB) and the rectification of the false belief (RFB), by age group



most of the children's explanations have an internal state as a component, both before and after scaffolding (see Veneziano & Hudelot, 2005b).

After scaffolding, internal states are also mentioned by several children as having the double function of consequence for one event and of cause for another, as in the following example:

Example 7 – LEA 8;6

i tombe sur l'autre // alors l'autre i croit qu'i l'a fait / exprès / alors il le pousse // sur le caillou

he falls on the other // so the other one believes he did it / on purpose / so he pushes him on the pebble

The expression of false belief and its correction

As mentioned under 2.4.4, the false belief was coded when the child not only talked about the character's belief but mentioned also the state of the world which, being different from the belief, made the latter appear false.

Before scaffolding, only a child of 8-9 years and three children of 10-11 years express a false belief (see Figure 7). Instead, after scaffolding there is a significant increase in the expression of FB as it is produced by one child of 6-7 years, four of 8-9 and seven of 10-11 years (for all the subjects: $\chi^2(1) = 3.9$, $p < .05$).

Concerning the rectification of the FB, before scaffolding it is only expressed by four 10-11 years old children (see Figure 7). After scaffolding, the number of children who mention the RFB incre ases among the 10-11 year olds (6 instead of 4),

and it is expressed by three 8-9 and one 6-7 year olds, groups where no mention appeared before scaffolding.

The rectification of the false belief is mentioned by these children to explain the final reconciliation between the characters: *c'est pas moi euh / c'est l(e) caillou qui m'a fait trébucher et alors après i i s(e) donnent la main … et pis i s(e) réconcilient* (it wasn't me uh / it was the pebble that made me trip and so then they shake hands … and then they make it up).

It is noteworthy that the RFB, more demanding than the expression of internal states or of the FB, because of the explicit reference to the different points of view of the characters, appears the latest in the initial narrative

Discussion

In the narrative before scaffolding, some 4-5 year old children can talk about the physical and emotional states of the characters, such as "seeing" and "hurting", and a few 6-7 year olds can refer to their intentional and epistemic states. However, in accord with other studies (Aksu-Koç & Tekdemir, 2004; Kielar-Turska, 1999; Bamberg & Damrad-Frye, 1991; Küntay & Nakamura, 2004), the expression of the false belief of one of the characters begins to appear only around 8-9 years and it is still not widespread in the first narratives of 10-11 year old children. Moreover, only a few of these children express the rectification of the false belief and the resolution of the misunderstanding.

Thus, the particular content of the Stone story does not elicit from the children a greater attribution of epistemic states, of false belief nor of its rectification.

After a non-intrusive scaffolding focusing children's attention on the causes of the events, but without any direct or indirect reference to the internal states of the characters, starting at 6-7 years children talk more frequently about the characters' internal states, particularly epistemic, to such an extent that they catch up with the initial narratives of the 10-11 year old children. In the same way, 6-7 year olds start to express the false belief and 8-9 year old children express both the false belief and its rectification as much as 10-11 year olds do in the initial narratives. The increase in the expression of the FB and of the RFB is also notable in 10-11 year olds: respectively 70% and 60% of these children do it in their second narrative.

How to explain the effect of our scaffolding procedure on 6-7 year olds and, even more substantially, on children from 8 years onwards? It can be supposed that children between 6 and 9 years can be helped by a prior segmentation of the events and by a reflection on the reasons and causes of these same events. Eaton et al.'s study (1999) showed that segmentation of the temporal succession of events and questions about their causes and about the characters' moods, lead even some 5 year olds to talk about the mental states of the characters and to involve them in explanatory relationships. In their study, however, children didn't have to handle a monological narrative with its multiple requirements. In the present study, children

are helped also in their monological narrative even though, unlike in the Eaton et al. study, children are not solicited to think about the internal states of the characters. Indeed, starting from 6 years, children make notable progress in the attribution of epistemic states and in their seeing them behind the actions of the characters. Moreover, they progress also in the attribution of a false belief that expresses in a more or less explicit way the contrasting points of view of the two characters, and implies a more explicitly available "interpretative" theory of mind (Chandler & Carpendale, 1998; Carpendale & Lewis, 2006). It should be kept in mind that neither the internal states of the characters nor this double perspective on the events was the object of scaffolding. Moreover, Veneziano, Albert & Martin (2009) show that the beneficial effect is specific to the intervention procedures used and not to the simple fact of retelling the story a second time.

More then helping children accomplish what they could not have done alone, the scaffolding procedure devised for this research seems to function as a catalyst for competences that do not manage to manifest themselves when children are dealing with multidimensional complex tasks, as is the case of monological narratives.

These results raise legitimate questions about the meaning of the limited expression of false belief in the spontaneous initial narratives of 9-10 year olds, in this as well as in similar studies (e.g., Aksu-Koç & Tekdemir, 2004; Bamberg, 1991). Certainly, children who make progress in their narrative after scaffolding are there to show that they master the conceptual tools to talk about others' mental states. The complexity of the task and the innumerable skills needed to create a coherent and understandable story based on a few images can explain the fact that the mentalistic, interpretive, attitude required, still in development (Chandler, 2001), does not manifest itself clearly in the story (Aksu-Koç & Tekdemir, 2004). An interactional scaffolding procedure like the one used in this study succeeds in favorably leading children to dig into their deep-seated competences also in these circumstances. The procedure might work as a "harness" that allows the child to make better use of his skills in the face of the multiple demands that constrain his functioning rather then helping them develop new skills.

The ineffectiveness of the scaffolding in children 4-5 years old and the weak results shown by the 6-7 year olds suggest that there might be room for other kinds of interventions. If children who might have probably succeeded one Theory of Mind task (for example, the "deceptive box" task of Perner, Leekam & Wimmer, 1987; see Veneziano et al., 2009) could be led to talk about the characters' epistemic and intentional states by questioning them about the causes of events, 4-5 year olds might need a scaffolding procedure targeted directly and explicitly on the epistemic states of the characters in order to make progress. It could also be, however, that the child's level of cognitive development does not permit too radical changes in the approach to story-telling, no matter the type of external intervention one sets up. On this point it is useful to remember that both the Piagetian notion of schema (e.g., Piaget, 1975), and the Vygotskian concept of

internalization (e.g., Vygotski, 1985) imply cognitive reorganizations at a deep-seated level and not a simple copy that would go from an external model to an internal representation (Symons, 2004).

Above all, the effect of the scaffolding procedure shown by this study, strongly plead for the necessity of evaluating children's competences in different ways before drawing conclusions about their real abilities or potentialities.

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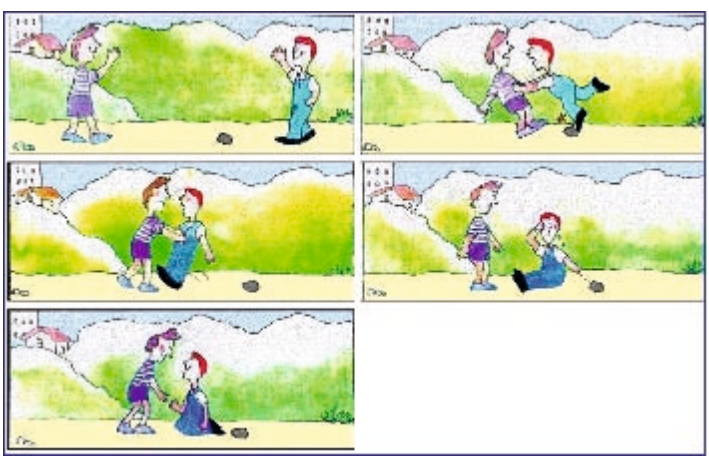
Appendix 1

a. The pictures of the "Stone story"



b. The coded events

Image 1 The greeting: Two characters, P1 and P2, meet, greet each other
Image 2 The stumble: P1 stumbles on a stone
The first push: P1 pushes P2
Image 3 The counter-push: P2 pushes back P1
Image 4 The fall: P1 falls to the ground
The pointing: P1 points to the stone
The crying: P1 cries
Image 5 The reconciliation: P2 holds out his hand to P1